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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,362	11/21/2003	Jack French	French-ARI-PA	3592
27119	7590	03/27/2007	EXAMINER	
ALBERT W. WATKINS 30844 NE 1ST AVENUE ST. JOSEPH, MN 56374			MILLER, CARL STUART	
			ART UNIT	PAPER NUMBER
			3747	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/27/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/719,362	FRENCH	
	Examiner Carl S. Miller	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 30 December 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2,6 and 7 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,3-5 and 8-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>4/5/04</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____

Applicant's election without traverse of Figure 3 in the reply filed on 12/30/06 is acknowledged.

Claims 2 and 6-7 are withdrawn from consideration as drawn to non-elected species of the invention. The applicant will note that Claim 7 has been withdrawn due to its dependency upon Claim 6.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Knapp ('720)

In particular, the Figure of Knapp clearly shows that the injector housing is composed of parts that are held together with either screw threads or screws. This fact means that the parts are replaceable in the same way that applicant's parts are replaceable since this is how the applicant's injector housing is constructed.. Element (154) contains the passage of Claim 5 and the identifiable characteristic of the replaceable part would simply be the structure of the part itself. For example, the seat disk (144) looks different if the hole is simply made larger or smaller.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by French ('616)

In particular, French teaches all of the limitations of Claim 1 and also teaches an element (28) that will act as either the claimed needle guide of the lock mechanism for the valve seat.

Claims 9, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp in view of Hornby ('176)

Knapp applies as noted above and Hornby teaches a flat needle disk that could obviously be made of sheet material and a method of adjusting the spring pressure by relocating a spring support element. The process of changing the spring force will also alter the fully open needle height.

It would have been obvious to change the spring force of Knapp as taught by Hornby because Knapp already taught the use of an adjustable stop for the spring and that stop was even easier to adjust since its position is determined by a set of screw threads.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over French in view of Hornby.

French applies as noted above and Hornby teaches the use of plural passages in element (14) that are adjacent to the valve seat. Since the French device also uses a disk member, it would have been obvious to use an additional passage member in French.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12, 14, 16, 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Coldren.

In particular, Coldren teaches an injector that can be altered from one that uses a double pole solenoid into one using a single pole solenoid. The alteration changes the characteristics of the injector (see column 5, line 44 to column 6, line 35). The alteration suggested changes the magnetic force exerted by the coil.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coldren. In particular, while Coldren does not specifically mention the use of his alteration in plural injectors , since most diesel engines have plural injectors and the advantages of the technique would be equally important for all such injectors it would have been obvious to apply the technique to plural injectors.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp in view of Schatz.

Knapp applies as noted above and Schatz teaches substituting various possible outlet disks within a fuel injector. Since the disks used by Schatz would be useable in the Knapp injector and Knapp includes a means to easily change the outlet, it would have been obvious modify the outlet of Knapp as suggested by Schatz.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl S. Miller whose telephone number is 571-272-4849. The examiner can normally be reached on MTWTHF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Cronin, can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Carl S. Miller
Primary Examiner